GC-618CT

Microstructure

**PERFORMANCE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Wear Resistance</th>
<th>LESS</th>
<th>MORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Resistance</td>
<td>LESS</td>
<td>MORE</td>
</tr>
<tr>
<td>Galling Resistance</td>
<td>LESS</td>
<td>MORE</td>
</tr>
<tr>
<td>Corrosion Resistance</td>
<td>LESS</td>
<td>MORE</td>
</tr>
</tbody>
</table>

**Composition**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tungsten Carbide (6.0 micron)</td>
<td>78.0%</td>
</tr>
<tr>
<td>Cobalt</td>
<td>18.0%</td>
</tr>
<tr>
<td>Tantalum Carbide</td>
<td>3.0%</td>
</tr>
<tr>
<td>Other</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

**Physical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness, HRA (ASTM B294)</td>
<td>86.5 - 87.5</td>
</tr>
<tr>
<td>Density, g/cc (ASTM B311)</td>
<td>13.51 - 13.65</td>
</tr>
<tr>
<td>Average Transverse Rupture Strength, psi (ASTM B406)</td>
<td>450,000</td>
</tr>
<tr>
<td>Typical Porosity (ASTM B276)</td>
<td>A02-B00-C00</td>
</tr>
</tbody>
</table>

**Grade Attributes**

This structure, containing coarse tungsten carbide particles, is coupled with a medium binder content to provide an impact resistant grade with simultaneous good resistance to fatigue failure. The tantalum carbide additive ensures high resistance to galling.

**Typical Applications**

- Metalforming Punches
- Dies
- Heading Die Inserts

*To ensure the highest metallurgical quality, General Carbide processes all grades in sinter-HIP furnaces.*